March 2005

District of Columbia Department of Health

Pandemic Influenza Preparedness Plan

Executive Summary

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Influenza viruses are unique in their ability to cause sudden, pervasive infection in all age groups on a global scale. Influenza viruses present biological threats because of a number of factors, including a high degree of transmissibility, the presence of a vast reservoir of novel variants (primarily in aquatic birds), and unusual properties of the viral genome. Humans have been infected in recent avian influenza outbreaks in Asia (1997, 1999, 2003, 2004) and in Europe (2003). Such occurrences are reminders that a novel strain could occur at any time.

The national response to a pandemic will largely reflect the ability of states and local areas to respond. Because of the potential impact of a pandemic and the need to coordinate a number of partners to effectively respond, planning for such an event needs to occur in advance. An Influenza Pandemic would require an immediate and coordinated response from the District of Columbia's Department of Health (DOH) the medical community, and other stakeholders to maintain the health and well being of the residents, workers and visitors to the District of Columbia.

A major difference between an influenza pandemic and natural disasters such as a tornado or hurricane, or intentional release of a biological, radiological, or chemical agent, is that a pandemic is likely to cause both widespread and sustained effects and is thus likely to stress the resources of every state. This broad resource strain will make it difficult to shift resources between states and reinforces the need for each state to develop a plan, reflecting a substantial degree of self-reliance.

The public health response to an influenza pandemic would include active and passive disease surveillance and reporting, epidemiological investigation, public information, and monitoring and support of the healthcare system response. Implementation of isolation and quarantine regulations along with other emergency actions may be required to control the spread of the disease. Clinical recommendations including those for diagnostic testing, laboratory identification, treatment of patients, and infection control procedures have been formulated and published by the Centers for Disease Control and Prevention (CDC), and undergo frequent revision and updates.

The Pandemic Influenza Preparedness Plan will serve as a supplemental annex to the DC DOH Bioterrorism Response Plan, and addresses such issues as command and control procedures, legal authority, surveillance and epidemiological investigation procedure, organization, security, communications, and education and training. The Pandemic Influenza Preparedness Plan and the DC DOH Bioterrorism Response Plan are integral parts of the Terrorism Annex to the District Response Plan (DRP).

Background on Influenza

Influenza (commonly called "the flu") is a contagious respiratory illness caused by influenza viruses. Infection with influenza viruses can result in illness ranging from mild to severe with potentially life-threatening complications. An estimated 10% to 20% of U.S. residents get the flu each year: an average of 114,000 people are hospitalized for flu-related complications and 36,000 Americans die each year from complications of flu. Influenza viruses can also cause

pandemics, during which rates of illness and death from influenza-related complications can increase dramatically worldwide. Influenza viruses cause disease among all age groups. Rates of infection are highest among children, but rates of serious illness and death are highest among persons aged ≥ 65 years and persons of any age who have medical conditions that place them at increased risk for complications from influenza.

In the Northern hemisphere, winter is the time for flu. In the United States, the flu season can range from October through March, and even past March in some years. During the past 21 flu seasons, months with the heaviest flu activity (peak months) occurred in December in 4 years, January in 5 years, February in 9 years, and March in 3 years.

Avian Influenza

Avian influenza (bird flu) is an infection caused by viruses that occur naturally among birds. Only influenza A viruses infect birds. Wild birds are the natural host for all subtypes of influenza A virus. Wild birds worldwide carry the viruses in their intestines, but usually do not get sick from them. Infected birds shed flu virus in their saliva, nasal secretions, and feces. Avian influenza is very contagious among birds and can make some domesticated birds, including chickens, ducks, and turkeys, very sick and kill them. Susceptible birds become infected when they have contact with contaminated excretions or surfaces that are contaminated with excretions.

The risk from avian influenza (bird flu) is generally low to most humans because the viruses occur mainly among birds and do not usually infect humans. During an outbreak of avian influenza (bird flu) among poultry (domesticated chicken, ducks, turkeys), there is a possible risk to people who have contact with infected birds or surfaces that have been contaminated with feces from infected birds.

Pandemic Influenza History

Pandemics occur when an entirely new subtype of influenza A virus emerges (antigenic shift) through recombination of human and animal antigens (swine or avian). Not all antigenic shifts cause a pandemic, but if a novel subtype is virulent and easily transmitted person-to-person, a pandemic is probable. The devastation that could accompany influenza pandemic is not reflected by the public's perception of the annual flu season, despite the fact that influenza causes significant morbidity and mortality each year. The flu is too often associated with a serious winter cold, a vaccination shot, or an illness that is life threatening only to young children and the elderly. A review of pandemic history forces reconciliation of this perception with the potential severity of a future pandemic.

- Three pandemics have occurred in the last century: Spanish Flu in 1918, Asian Flu in 1957 and Hong Kong Flu in 1968.
- The virus responsible for the Spanish Flu originated from swine while the viruses in the other pandemics contained gene segments, which were closely related to avian viruses.
- The impact of the Spanish flu was unprecedented, with an estimated 500,000 deaths in the United States and 20-50 million deaths worldwide.

- While it is true that during a regular flu season 80 to 90 percent of all deaths occur in those 65 years of age and older, during the 1918 pandemic nearly half of those who died were young, healthy adults.

Significant societal changes have occurred since the last substantial pandemic in 1968, making it difficult to predict the level of illness and disruption that a pandemic could cause today. National and international travels have increased tremendously, which could potentially speed the spread of influenza virus from one country to another.
The first case of HIV/AIDS had not been identified at the time of the last pandemic. The 2001 United Nations AIDS epidemic update estimates that there are now 40 million people in the world living with HIV/AIDS. Research suggests that the influenza-related mortality in person with AIDS is similar to that in the general US population over 65 years of age, a group already identified as high priority. These factors, along with increase urbanization and crowding, may change the face of the next influenza pandemic.

Clinical Features of Influenza

The main way that influenza viruses are spread is from person to person in respiratory droplets of coughs and sneezes. (This is called "droplet spread.") This can happen when droplets from a cough or sneeze of an infected person are propelled (generally up to 3 feet) through the air and deposited on the mouth or nose of people nearby. Though much less frequent, the viruses also can be spread when a person touches respiratory droplets on another person or an object and then touches their own mouth or nose before washing their hands. A person can spread the flu starting one day before he or she feels sick. Adults can continue to pass the flu virus to others for another three to seven days after symptoms start. Children can pass the virus for longer than seven days. Symptoms start one to four days after the virus enters the body. Some persons can be infected with the flu virus but have no symptoms. During this time, those persons can still spread the virus to others.

Uncomplicated influenza illness is characterized by the abrupt onset of constitutional and respiratory signs and symptoms (e.g., fever, myalgia, headache, severe malaise, nonproductive cough, sore throat, and rhinitis). Among children, otitis media, nausea, and vomiting are also commonly reported with influenza illness. Respiratory illness caused by influenza is difficult to distinguish from illness caused by other respiratory pathogens on the basis of symptoms alone.

Many people use the term "stomach flu" to describe illnesses with nausea, vomiting, or diarrhea. Many different viruses, bacteria, or even parasites can cause these Symptoms. While vomiting, diarrhea, and being nauseous or "sick to your stomach" can sometimes be related to the flu – particularly in children – these problems are rarely the main symptoms of influenza. The flu is a respiratory disease and not a stomach or intestinal disease.

Background Assumptions

- Influenza is a highly transmissible viral illness that represents a threat to public health and safety.

- Transmission of the disease occurs through close contact with a symptomatic individual.
- The impact of the next pandemic could have a devastating effect on the health and well being of the American public. In the United States alone:

    - Up to 200 million persons will be infected
    - Between 40 and 100 million persons will become clinically ill
    - Between 18 and 45 million persons will require outpatient care
    - Between 300,000 and 800,000 persons will be hospitalized
    - Between 88,000 and 300,000 persons will die

- There are specific preventive and treatment measures for influenza.
- The US Centers for Disease Control and Prevention (CDC) and the World Health Organization (WHO) conduct extensive surveillance programs to monitor the occurrence of influenza activity worldwide, including the emergence of potential pandemic strains of influenza virus.
- The DC DOH will, in general, follow the CDC guidelines for prevention and control.

Synopsis

A. Pandemic Influenza: A High Priority for Planning

Several features set pandemic apart from other public health emergencies or community disasters:

- Influenza pandemics are inevitable but unpredictable and arrive with very little warning.
- Outbreaks are expected to occur simultaneously throughout much of the US, preventing shifts in human and material resources that usually occur in the response to other disasters.

    - Localities must be prepared to rely on their own resources to respond.
    - The effect of influenza on individual communities will be relatively prolonged (weeks to months) in comparison to other types of disasters.

- Health care workers and other first responders will be at higher risk of exposure and illness than the general population, further straining the health care system.
- Effective prevention and therapeutic measures, including vaccine and antiviral agents, will be in short supply, contributing to public concern.
- Widespread illness in the community will increase the likelihood of sudden and potentially significant shortages of personnel in other sectors who provide critical community services (military personnel, police, firemen, utility workers, transportation workers).

B. Concept of Operations

Planning Assumptions

- Many experts consider influenza pandemics to be inevitable… yet no one knows when the next one will occur.
- The widespread nature of pandemic influenza will require the coordinated efforts of a wide variety of organizations within the NCR to effectively control the spread of the disease and to reduce morbidity and mortality.
- An Influenza pandemic will severely tax and perhaps overwhelm healthcare resources at the local and regional levels, requiring extraordinary measures to contain the outbreak and provide medical care to victims of the disease.
- Outbreaks are expected to occur simultaneously throughout much of the US, preventing shifts in human and material resources that normally occur with other natural disasters.
- A Mayoral Declaration of a Public Health Emergency and implementation of isolation and/or quarantine procedures may be implemented to control the spread of the disease.
- The District Response Plan (DRP) is the overarching organizational structure for all emergency responses in the District, addressing all phases of emergency management. The DRP utilizes an all-hazards approach to unify and coordinate the response effort of all District agencies.
- The morbidity and mortality resulting from an influenza pandemic may far outweigh that caused by a bioterrorist attack, with an estimated 89,000-207,000 deaths, 314,000-734,000 hospitalizations, 18-42 million doctor visits, and 20-47 million additional cases who do not seek formal medical care.

In addition to the above assumptions, it is felt that there may be as little as one to six months warning before outbreaks begin in the US, if the pandemic emerges outside this country. The pandemic may occur during time periods not normally associated with our usual influenza season, and the pandemic strain may attack categories of people at different rates than that, which normally occur during the influenza seasons.

C. Command and Control

The Director of the Department of Health (DOH) shall assume command for directing the response to the influenza pandemic, and DOH's Health Emergency Coordination Center (HECC) will be activated. At the point where resources outside the Department of Health are needed, or the basic infrastructure of the District is being affected as a result of the pandemic, the assistance of the Emergency Management Agency (EMA) shall be sought. Activation of the EMA's Emergency Operations Center (EOC) will be requested through the Director of EMA.

The emergency response system of the EMA shall be utilized to track missions, acquire resources, document costs, and coordinate the response activities among agencies and stakeholders. The general methods of operation shall be undertaken as provided in this plan

and the District Response Plan (DRP). In responding to the pandemic, the Department of Health will have lead responsibility and the EMA will have support role.

- If emergency powers of the District of Columbia are needed, the EMA in consultation with the DOH shall draft a Mayor's Executive Order declaring that a state of emergency exists and specifying the emergency powers that are necessary or appropriate to cope with the emergency
- If it appears that significant expenditures will be required to respond to this emergency, the Director of the Department of Health may recommend, and the Mayor may request a presidential disaster declaration.
    - If granted, this declaration will make federal funding available on a matching reimbursement basis.

Responsibilities

- The Department of Health will seek an Executive Order from the Mayor in order to activate resources for the pandemic response.
- The Department of Health will activate the Health Emergency Coordination (HECC) Center to facilitate the initial response to the influenza pandemic.
- The Department of Health will assume the role of Incident Command at the Emergency Operations Center that will be activated when resources outside the Department of Health are needed, or the basic infrastructure of the District is being affected as a result of the pandemic.
- The Department of Health will assist in the identification and provision of resources needed by the local health and medical systems to cope with the emergency.
- The Department of Health will identify and coordinate planning with key stakeholders through the Pandemic Influenza Coordinating Committee.
- The Public Health Laboratory will provide expertise in early identification of the presence and type of influenza.
- The Bureau of Epidemiology will conduct surveillance of influenza and other related disease activity and provide continuous information of its course and impact upon the population.
- The DOH Office of Communications and Community Relations will keep the public informed during all phases of the pandemic.
- The Department of Health will be responsible for developing plans to assess existing health care resources, coordinate responses with key stakeholders, and develop contingencies for anticipated shortages of essential services.
- The Department of Health will be responsible for promoting inter-pandemic routine influenza and pneumococcal vaccination to designated high-priority groups.

D. Concurrent Plans

As influenza related activities escalate, the District Response Plan (DRP) may be activated to support the efforts of DOH to control the spread of the disease and to treat its victims. The DRP may be activated as the only response plan or if warranted, additional

response plans may be activated. Those plans may include the National Capitol Region (NCR) Plan, and/or the Federal Response Plan.

The NCR Plan is the result of agreements among the regional jurisdictions and the Federal Emergency Management Agency (FEMA) and the federal government to provide rapid response with an Emergency Response Team (ERT-NCR). The ERT-NCR would work to ensure close coordination and to expedite assistance. The Federal Response Plan, invoked after a Presidential Declaration of an Emergency, would permit wide-ranging comprehensive federal support for the control of the epidemic and the treatment of victims.